

IV. AMENDMENTS TO THE CLAIMS

THESE CLAIMS EITHER PREVIOUSLY AMENDED
OR CURRENTLY AMENDED CONTAIN NO NEW MATTER

1. (Canceled)

2. (Canceled)

3. (Currently Amended) A cryogenic refrigerator characterized by using a ~~compressor unit~~ having a plurality of refrigerator units and at least one compressor unit,
the cryogenic refrigerator comprising:

means, which is provided between a power source and a compressor main body motor of the at least one compressor unit, for varying a frequency of the compressor main body motor;

a high pressure sensor attached to a high pressure refrigerant pipe connecting an outlet of the compressor main body with a refrigerant supply port of each one of the plurality of refrigerator-unit units;

a low pressure sensor attached to a low pressure refrigerant pipe connecting an inlet of the compressor main body with a refrigerant discharge outlet of each one of the plurality of the refrigerator-unit units; and

a controller for controlling the means for varying the frequency of the compressor main body motor in accordance with output signals of the high pressure sensor and the low pressure sensor; and

~~characterized in that a plurality of the refrigerator units according to claim 1 and one or more of the compressor units constitute the cryogenic refrigerator.~~

4. (Currently Amended) A cryogenic refrigerator characterized by using a ~~compressor unit~~ having a plurality of refrigerator units and at least one compressor unit,

the cryogenic refrigerator comprising:

means, which is provided between a power source and a compressor main body motor of the at least one compressor unit, for varying a frequency of the compressor main body motor;

a differential pressure sensor provided between a high pressure refrigerant pipe connecting an outlet of the compressor main body with a refrigerant supply port of each one of the plurality of refrigerator ~~unit-units~~ and a low pressure refrigerant pipe connecting an inlet of the compressor main body with each one of a refrigerant discharge outlet of the plurality of refrigerator ~~unit-units~~; and

a controller for controlling the means for varying the frequency of the compressor main body motor in accordance with an output signal of the differential pressure sensor; and

~~characterized in that a plurality of the refrigerator units according to claim 1 and one or more of the compressor units constitute the cryogenic refrigerator.~~

5. (Currently Amended) A cryopump characterized by comprising the cryogenic refrigerator according to ~~claim~~ claims 3 or 4.

6. (Original) The cryopump according to claim 5, comprising:

a temperature sensor for detecting a temperature at any optional position of a cryopanel of the cryopump; and

a controller for controlling the means for varying the frequency of the motor driving the intake/exhaust valve managing the intake/exhaust cycle time of the refrigerator unit in accordance with an output of the temperature sensor.

7. (Canceled)

8. (Currently Amended) A super conductive magnet characterized by comprising the cryogenic refrigerator according to ~~claim~~ claims 3 or 4.

9. (Canceled)

10. (Canceled)

11. (Currently Amended) A cryogenic measuring apparatus characterized by comprising the cryogenic refrigerator according to ~~claim~~claims 3 or 4.

12. (Canceled)

13. (Canceled)

14. (Currently Amended) Currently Amended) A simple liquefaction apparatus characterized by comprising the cryogenic refrigerator according to ~~claim~~claims 3 or 4.

15. (Canceled)

16. (Canceled)